

**REMARKS:**

The Official Action dated October 24, 2006 has been reviewed. A substitute specification is being submitted and a marked up copy of the substitute specification accompanies this response indicating the changes being made in the specification. The Cross-Reference to Related Applications has been corrected to refer to the international application of which this is the U.S. National Stage. Further corrections are made throughout the specification to correct obvious inconsistencies and typographical errors.

The examiner's objection to claim 9 of this application is noted and claim 9 has been cancelled. Also claim 14, dependent from claim 9, has been cancelled.

The examiner's rejection of claim 1 - 17 as fully anticipated by the U.S. patent No. 5,757,627 of Faulk has been noted and is respectfully traversed. Faulk discloses a power transformer 100 with a master controller 144 for controlling the secondary switch 116 and a slave controller 142 for controlling the primary switch 110. The transformer further includes auxiliary windings 136 and 278 that are connected to the controllers. The master controller 144 monitors the zero crossing of the secondary current through the transistor 152 and monitors the DC input voltage  $V_{in}$  through the auxiliary winding 136 (col. 7, lines 55 - 61).

Contrary to the invention, Faulk neither discloses that the control circuit determines the rate of change of the voltage of the auxiliary winding nor that the switch 116 is controlled in dependency of this rate of change. Since Faulk does not disclose at least one of the main features of the invention, the invention is neither anticipated by Faulk nor is it rendered obvious for one skilled in the art. Claims 1 - 8, 10 - 13 and 15 - 17 should therefore be found patentable over Faulk.

Concerning the examiner's comments at page 2 of the Official Action comparing the Faulk patent to the claims of the present application, these have been considered and several errors are apparent. Regarding claim 1 it is said that the items 110 and 116 are a switching input and a switching output of the Faulk converter. This is not the case. At column 3, lines 44 - 46, Faulk clearly indicates that the transistor 110 is itself the switching device. Faulk says, "Transistor 110, controlled by  $V_{G1}$ , functions as a switch by only operating in its saturated (on)

state or in its off state." Likewise, at column 3, lines 66 - 67, Faulk indicates that the device 116 is the switching device saying, " $V_{G2}$  controls the on-off switching of transistor 116." In each case the devices 110 and 116 are identified by Faulk as NMOS transistors, column 3 lines 29 - 30, and line 61. The question arises if the transistors 110 and 116 are to be read as the "switching input" and "switching output," then what is the switching device? The comments in the Official Action do not say.

Furthermore, in the Official Action the control input called for in claim 1 is referred to as an input into controllers 144 and/or 142. This is unsustainable, but even if the Faulk patent is read in that way these controllers do not serve "for enabling or disabling said switching device from conducting current from said switching input to said switching output" as stated in the comments in the Official Action. No current is ever conducted between the switching transistor 110 and the switching transistor 116 in the Faulk patent. The two are isolated by the transformer 100.

The comments concerning claim 1 go on to say that one or both of the windings 136 and/or 278 of the transformer 100 in Faulk should be considered the bias winding called for in claim 1 for producing a bias voltage representative of the output power. However neither of these two windings produces an output representative of the output power. Faulk clearly indicates that the winding 136 represents the input voltage to the entire converter  $V_{IN}$  to the entire converter as shown in, for example, Fig. 1. See column 7, lines 58 - 62. As for the auxiliary winding 278, Faulk makes it clear that this is used to power up the slave controller 142. See column 19, lines 56 - 57.

In the outstanding Official Action, the comments concerning claim 1 go on to say that "a control circuit (144/142) for (a) determining the rate of change of said bias voltage" is supported in the Faulk patent at column 6, lines 4 - 7. That is not the case. The rate of change referred to in column 6 of the Faulk patent in the location referred to by the examiner is the rate of change of the drain voltage  $V_d$  of the switching transistor 110.

For each of the foregoing reasons, then, the Faulk patent does not anticipate claim 1 of this application. Claims 2 - 8 and 9 - 13 are each dependent and include by their dependency the provisions of claim 1. Aside from any further patentable distinctions, by their dependency, these

claims patentability differ from the Faulk patent for each of the reasons stated with respect to claim 1.

As regards claims 15 - 17, the Official Action relies upon MPEP 2112.02 and the inherency of the operation of the Faulk patent converter in the manner expressed with respect to claims 1 - 14. However, as noted above, the rejection of these claims over Faulk is not well taken. The method claims 15 - 17 differ from the operation of the Faulk converter in the ways stated above. For example, as pointed out above, Faulk does not provide "a bias voltage representative of the output power" as called for in claim 15. Claims 16 and 17, being dependent, are patentable over Faulk in the same manner as claim 15 in addition to any additionally patentable content contained therein. It is respectfully urged that each of claims 1 - 8, 10 - 13 and 15 - 17 should now be allowed.

The newly presented claims 17 - 26 are claims that are very much like, albeit not identical to, amended claims in the preceding PCT patent application of which this application is the national stage. The Written Opinion in the PCT application has indicated that those amended claims are allowable over the art of record in the PCT application.

Claims 27 to 30, newly presented, are dependent claims that spell out the two modes of operation, normal load and light load, that occur through the use of the converter control arrangements of claims 1, 15, 18 and 24. Each of these claims is patentable with their parent as set forth above and for the two mode operation that cannot be found in the Faulk converter.

In conclusion, for each of the foregoing reasons, all of the claims now present in the application patentably differ from Faulk and any other prior art of record in this application and should be allowed at this time. An early, favorably reexamination is respectfully requested at this time.

A three month extension of time in which to respond to the outstanding Official Action is requested in the accompanying Request for Extension, submitted in duplicate. A check in the amount of \$1,900.00 to cover the fee for a three month extension of time (\$1,020), the additional claims fee (\$700) and the Supplemental Information Disclosure Statement fee (\$180) is enclosed. No further fee is believed necessary, however the Commissioner is authorized to

charge any insufficiency or credit any overpayment to the deposit account number 070135 of attorneys for applicant.

Should the examiner have questions, comments or suggestions regarding this application, the examiner is invited to please contact the undersigned at the telephone number or email address listed below.

Respectfully submitted,

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